

## Cellar Conversion in a detached house

### Background

A Victorian property with a cellar converted into a playroom by the previous owner. Unfortunately there had been no attempt made to waterproof the area so when the new owner viewed the property there was 600mm of water present in the basement rendering it unusable. The new owner wanted to convert the area into a dry and usable area to be used as a television lounge with a separate utility room incorporating a photographic dark room.



Before the conversion

### The Work Required



In order that the cellar could be used as residential accommodation (Classed as a Grade 3 area by the Code of Practice for Protection of Structures against Water from the Ground (BS8102)) it was necessary to install an effective waterproofing system. A Delta Cavity Drain Membrane System was used.



Studded membrane

One of the main advantages of a cavity drain membrane system is that it does not stop water at the point of entry. As its name implies it allows moisture to drain into a cavity and as a result, hydrostatic pressure is no greater than it would be without a waterproofing system. This means the building does not suffer from additional stresses which could cause movement or structural failure. The use of the Delta system is normally welcomed by the Local Authority Conservation Officers as it makes few changes to the structure of the building and if it is removed the building "as was" is revealed, which is an advantage when working in listed buildings.

### Carrying out the work

Floor and wall surfaces were prepared including the removal of electrical fittings. A sump pump was supplied and fitted. The sump collects the moisture that has drained via the cavity. In this case, as part of the cellar was to be a utility room, it was also designed to contain the water that drained from the washing machine. When the water reaches a predetermined level the pump is triggered and the water is removed to a street level sewer.



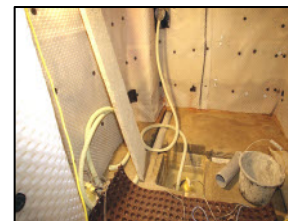
Membrane applied and floor laid.

Due to the history of flooding a second pump was installed for redundancy and because the area was known to suffer from power cuts a generator was provided that could be quickly brought on-line and would enable the system to continue operating whilst the house was without power. To prevent flooding to the completed conversion in the event of a complete power failure, a battery backup unit was supplied and fitted.



The Finished Conversion

The system was completed with the installation of a loud alarm that sounds in the event of an excessively high water level in the sump.



Sump and pumps installed and ready for test

